BAULIN, V. V., Candidate Geolog-Mineralog Sci (diss) -- "History of the development of the perenially frozen soil in the lower Ob' region during the Quaternary period". Moscow, 1959. 19 pp (Moscow Order of Lenin and Order of Labor Red Banner State U im M. V. Lomonosov, Geol Faculty), 110 copies (KL, No 23, 1959, 162)

BAULIN, V.V.

Significance of determining very small iodine quantities for the study of rock genesis (based on a study of middle Quaternary deposits in the lower Ob' Valley). Vest.Mosk.un. Ser.biol., pochv., geol., geog. 14 no.2:149-157 '59.
(MIRA 13:4)

1. Kafedra merzlotovedeniya Moskovskogo gos. universiteta.
(Ob' Valley--Paleogeography) (Iodine)

AMANYAN, A.A.; RAULIN, V.V.

Second layer of frozen rocks in the Salekhard region. Trudy Inst.merzl.AN SSSR 16:141-149 '60. (MIRA 13:4)
(Salekhard region--Frozen ground)

BAULIN, V. V.

Basic stages in the history of the development of permanently frozen ground in the West Siberian Plain. Trudy Inst. merzl. AN SSSR 19:5-18 '62. (MIRA 16:1)

(West Siberian Plain--Frozen ground)

BAULIN, V.V.

Thickness of frozen rocks in the Salekhard region. Merzl. issl. no.3:37-43 '63. (MIRA 17:6)

L 45443-66 EWT(1) GW

ACC NR: AP6021870 (A) SOURCE CODE: UR/0210/66/000/001/0053/0062

33
B

AUTHOR: Baulin, V. V.

ORG: Institute of the Science of Frozen Ground im. V. A. Obruchev, Moscow (Institut merzlotovedeniya)

TITLE: Frozen strata depths as indices of a region's tectonic structure

SOURCE: Geologiya i geofizika, no. 1, 1966, 53-62

TOPIC TAGS: geologic survey, economic geology, ~~sound transmission~~, tectonics, seismic prospecting, earth crust

ABSTRACT: A study was made of the relationship between permafrost thickness and tectonic structure in the northern part of the West Siberian lowland, between the Ob' and Yenisey rivers. It was found that the tectonic structure has a definite influence on strata depths at the lower permafrost limit. Conversely, the tectonic structure of an area can be determined by studying the laws governing the distribution of the permafrost thickness. One such law is that the depth decreases over positive tectonic structures, and increases over negative ones. This law is most clearly operative over high order tectontic structures in which frozen rock thicknesses are from 100 to 120 meters. These structures are also the most promising for oil and gas layers. Ice and rock depths are rather easily determined using electrical sounding methods, natural conditions for which are particularly favorable in the tundra belt. The physical and geographic similarity prevailing in the northern part of Western Siberia makes it possible to extend the results obtained to the entire lowland, an area in which the

Card 1/2 UDC: 551.24 : 551.345(571.1)

L 45443-66

ACC NR: AP6021870

permafrost volume is very large. The approach recommended, that of studying permafrost distribution laws in order to provide a preliminary outline of the tectonic structure, is simple and quite economic. The method can be expanded and improved by (1) making vertical electrical soundings over several structures in the northern part of Western Siberia as part of the permafrost study, (2) making complete collections of data on frozen rocks obtained from well bores and systematizing such data, and (3) maintaining all boreholes for purposes of geothermal observations. This procedure would make possible outlines of the structures in the permafrost using geoisotherms, with subsequent use of the method for oil prospecting. Orig. art. has: 3 figures.

SUB CODE: 08/ SUBM DATE: 20 Jan 64 / ORIG REF: 018

LS

Card 2/2

TURPIN, N. BAKLIN, Ya.

Building Machinery

Movable ladder-scaffold. Sel'. stroi. No. 4. 1952

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED

BAULIN, Ya.N.; BELIKOV, N.A.; SOSHIN, A.V., professor, redaktor.

[N.A.Belikov's method for over-all mechanization of plastering work] Kompleksnaia mekhanizatsiia shtukaturnykh rabot po metody N.A.Belikova. Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1953. 18 p. (MLRA 7:6)

(Plastering)

BAULIN, Ya.N.

Ladder for finishing operations. Suggested by H.N. Baulin.
Rats. predl. no. 37:11-12 '59. (MIRA 14:1)
(Ladders)

BAULIN, Ye.

Assemblies of activists. Grazhd. av. 21 no.11:19 N '64.
(MIRA 18:3)

AUTHOR: Kvyatkovskiy, V.M. (Cand.Tech.Sci.) SOV/96-58-10-11/25
Baulina, A.I. (Engineer)

TITLE: The de-silication of water by the magnesite sorbent of the VODGEO Institute (Ob obeskremnivanii vody magnezitovym sorbentom instituta VODGEO)

PERIODICAL: Teploenergetika, 1958, No.10. pp. 46-51 (USSR)

ABSTRACT: The method of de-silicating water by filtration through a magnesite sorbent that was suggested by the VODGEO Institute was described in an article in Elektricheskiye Stantsii No.1, 1956. The authors of the method considered it possible to de-silicate the water either raw or after various stages of treatment. They stated that the silica content can be reduced to 0.3 - 0.5 mg/litre at a purification temperature of 40 - 50°C with a filtration rate through the beds of 10 m/hour. The process was tested experimentally at the All-Union Thermo-Technical Institute using magnesite sorbent obtained from VODGEO and also some prepared in the All-Union Thermo-Technical Institute. The tests were made in active pipework in the water treatment installation of two Heat and Electric Power Stations. Data about the quality of the input water and of the filtrate, and also the dates of starting and stopping the tests, are in Table.1. The water filtration conditions are recorded in Table.2. The tests were made in brass tubes of 18 - 22 mm internal diameter. At first

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the water was passed from top to bottom, but this soon clogged the beds and it was found necessary to reverse the flow. When raw Volga water was treated with magnesite sorbent, the silica content of the treated water was below 0.5 mg/litre silica for only 7 days, during which time 200 litres of water were purified. The silica content then rapidly rose and after two weeks it was 1.4 mg/litre silica. When the water was clarified before treatment, the purifier operated for 27 days before the silica content rose to 0.5 mg/litre, and during this time 1,320 litres of water were purified. Thereafter, the silica content rose to 1 mg/litre. When the water was first cation-treated, the filters operated for a month before the silica content rose to 0.5 mg/litre; thereafter it rose to 1 - 1.5 mg/litre silica. Information is given about the water hardness and the content of other ions during the tests. The chemical composition of the sorbent is discussed. In effect, the substance is magnesia cement and there is no agreed theory of the hardening of this substance. The various existing theories are briefly stated. The effect of the input water analysis on the mechanical properties and dissolution of the sorbent is considered. If very soft cation-treated water passes through the sorbent, some inevitably dissolves. The minimum enrichment of the water in bivalent magnesium and calcium ions is governed by the solubilities

of $Mg(OH)_2$ and $CaCO_3$ (see Table.3.). The relationship between the possible content of bivalent magnesium and the pH value of the water at the outlet from the tube has been calculated and is given in Table.4. In practice, equilibrium was not established and the magnesium content was less than this. To check whether any of the damage to the sorbent was mechanical, tests were made with the water flowing downwards through the bed, though it was occasionally reversed to increase the rate of flow through the bed. The tests were continued for 26 days and the sorbent was examined. The results show clearly that the pulverisation of the sorbent that was observed in the original tests resulted from chemical attack. Lime-treated water was de-silicated at the water purification plant of a metallurgical works. Previously, caustic magnesite treatment had yielded water of high silica content and had given rise to operating difficulties, largely because of unsatisfactory construction of the clarifiers. Moreover, the caustic magnesite was not treated properly. The tests with the magnesite sorbent are described in the preceding article by Mamet and Nikolayev. After a period of use, the ratio of magnesium oxide to magnesium chloride in the sorbent altered from 1.6:1 to 15:1. This is apparently caused by the washing-out of the soluble components, because the filtered water was not sufficiently alkaline,

due in turn to the use of carbonate alkalinity conditions in liming. Although the water was coagulated and lime-treated, the sorbent became contaminated with organic substances and iron oxides. It was shown that it was technologically possible to de-silicate lime-treated water in this way, but that it must first be filtered. The system needs further testing to check the silica capacity of the sorbent and the effectiveness of de-silication. There are 5 tables and 6 Soviet references[illegible].

ASSOCIATION: All-Union Thermo-Technical Institute (Vsesoyuznyy Teplotekhnicheskiy Institut)

KVYATKOVSKIY, V.M., kand.tekhn.nauk; BAULINA, A.I., inzh.;
POSHKOV, L.S., inzh.; LITVINOV, V.G., inzh.;
LOSEV, A.S., inzh.

Studying the hot liming process in water enriched with magnesium compounds. Teploenergetika 7 no.10:47-52 O '60.
(MIRA 14:9)

1. Vsesoyuznyy teplotekhnicheskiy institut i Donbassenergo.
(Feed water purification)

L 31491-66

ACC NR: AP6023197 SOURCE CODE: UR/0243/66/000/001/0041/0044

AUTHOR: Baulina, E. A.; Keymakh, R. Ya.; Kudryavtsev, V. I.; Portnov, M. A. 43 B

ORG: All-Union Scientific Research Chemicopharmaceutical Institute im. S. Ordzhonikidze, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy intitut); All-Union Scientific Research Experimental Design Institute of Food Machine-Building, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy eksperimental'no-konstruktorskiy institut prodovol'stvennogo mashinostroyeniya)

TITLE: Physicochemical and automatic methods of analysis and control in the production of medicinal preparations. Report nine. Method of control of the division of racemates into optically active isomers

SOURCE: Meditsinskaya promyshlennost' SSSR, no. 1, 1966, 41-44

TOPIC TAGS: isomer, optic activity, crystallization, amine, filtration, temperature control, pharmacology, polarimeter, chemical reaction kinetics, automatic control equipment

ABSTRACT: An automatic method for the control of the division of racemic D, L-threo-1-(p-nitrophenyl)-2-amino-1,3-propanediol, an intermediate product in the production of levomycetin, has been developed. The division of the racemate into optically active isomers is carried out by the method of their successive crystallization from the reaction mass containing an aqueous solution of the racemate. The formation of a solid phase during the crystallization process

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L 31491-66
ACC NR: AP6023197

made the control of the racemic amine division difficult. The new method makes it possible by means of a series of filtrations and temperature regulation to control the division of racemates into optically active isomers despite the continuously developing solid phase. The solid phase is separated from the mother solution by filtration in a vacuum and the return of the filtrate for refiltration. Crystallization of the obtained filtrate is prevented by heating the filtrate to a temperature of 70° or higher, a temperature 7° higher than crystallization temperature. The automatic control of the division is accomplished by means of an automatic polarimeter of a measuring vessel into which the mother solution filtrate is drawn under the effect of a vacuum. Orig. art. has: 3 figures. [JPRS]

SUB CODE: 07, 06, 13 / SUBM DATE: 29Jul65 / ORIG REF: 002 / OTH REF: 001

Card 2/2 mc

RUKHLYADEVA, A.P.; POLYGALINA, G.V.; BAULINA, E.A.; KRETOV, V.F.

Automatic method for determining the concentration of grain and potato mash. Ferm. i spirt. prom. 30 no.3:25-29 '64. (MIRA 18:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut fermentnoy i spirtovoy promyshlennosti (for Rukhlyadeva, Polygalina).
2. Vsesoyuznyy nauchno-issledovatel'skiy eksperimental'no-konstruktorskiy institut prodovol'stvennogo mashinostroyeniya (for Baulina, Kretov).

ZHDANOVICH, Ye.S.; GALKIN, A.F.; CHEKMAREVA, I.B.; BAULINA, G.A.; PREOBRAZHENSKIY, N.A.

Production of pyridinecarboxylic acid. Trudy VNIVI 8:11 '61. (MIRA 14:9)

1. Laboratoriya sinteza vitaminov gruppy B Vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta.
(Pyridinecarboxylic acid)

ZHDANOVICH, Ye.S.; CHEKMAREVA, I.B.; BAULINA, G.A.; KAPLINA, L.I.

Improved method for producing nicodin. Med. prom. 16 no.3:25 Mr '62. (MIRA 15:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
(NICOTINIC ACID)

SHIBNEV, V.A.; DEBABOV, V.G.; BAULINA, G.A.

Synthesis of hexapeptide with a sequence of pseudocrystalline segment of collagen molecule. Izv. AN SSSR. Ser. khim. no.6: 1049-1053 Je '64. (MIRA 17:11)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

ACC NR: AP6035252 (A) SOURCE CODE: UR/0377/66/000/004/0057/0063

AUTHOR: Sheklein, A. V.; Rekant, N. B.; Zhukovskaya, Ye. A.; Yurkova, S. V.; Baulina, M. A.;

ORG: State Scientific Research Institute of Energy im. G. M. Krzhizhanovskiy (Gosudarstvennyy nauchno-issledovatel'skiy energeticheskiy institut)

TITLE: Optical characteristics of electroconductive glasses coated with a tin-oxide film

SOURCE: Geliotekhnika, no. 4, 1966, 57-63

TOPIC TAGS: glass, electroconductive glass, tin oxide film, electroconductive film

ABSTRACT: Results of an investigation of the transmission, light reflection, and emission coefficients of industrial and laboratory glass samples coated with electroconductive tin-oxide film are given. The values were analyzed for the ground-level solar spectrum range (0.3—2.5 mμ) and the spectral range corresponding to the thermal radiation (4—20 mμ) of radiant energy receivers

Card 1/2

ACC NR: AP6035252

not provided with concentrators. Technological conditions are described for coating the glass with the electroconductive film and the composition is given for some additives for improving the optical parameters. An empirical relation of electric conductivity, measured during the technological process, with the optical characteristics is shown. Orig. art. has: 5 figures and 2 tables. [Based on authors' abstract] [NT]

SUB CODE: 11, 20/SUBM DATE: none/ORIG REF: 005/OTH REF: 001/

Card 2/2

BAULINA, M.N.; MISSARZHEVSKIY, V.V.

Method for processing organic fossil remains. Biul. MOIP Otd. geol. 37 no.6:123-124 N-D '62. (MIRA 16:8)

[illegible]

Taxonomic status of Staffella sphaerica (Abich). Vop. mikropaleont. no.7:85-104 '63. (MIRA 17:10)

1. Geologicheskiy institut AN SSSR.

MEOS, A.I., doktor tekhnicheskikh nauk; RODIONOV, I.M., inzhener; SOROKIN, L.Z., kandidat tekhnicheskikh nauk; RAULINA, N.L., inzhener; SHUBAYEV, N.V., inzhener

Artificial karakul made of viscose fiber. Leg.prom.15 no.7:43-44 Jl'55. (MLRA 8:10)

(Fur, Artificial)

[redacted], M. T.

"Mediators of the Blood of Glaucoma Patients." Cand Med Sci, Second Moscow State Medical Inst imeni I. V. Stalin, 22 Feb 54. Dissertation (Vechernyaya Moskva Moscow, 12 Feb 54)

SO: SUM 186, 19 Aug 1954

PLETNEVA, N.A., Professor; BAULINA, N.S., assistent; BESLEKOYEV, T.I., dotsent.

Effect of partial excision of the cerebral cortex on intraocular pressure. Vest.oft. 34 no.5:3-8 S-O '55 (MLRA 8:11)

1. Iz kliniki glaznykh bolezney (dir.-prof. N.A.Pletneva) II Moskovskogo meditsinskogo instituta imeni I.V.Stalina.
(EYE, tension, eff. of partial cerebral decortication)
(CEREBRAL CORTEX, physiology, eff. of partial excis. on eye tension)

SYROYEZHKIN, Ivan Timofeyevich; BAULINA, V.V., red.; MAKAROVA, N.F., tekhn. red.

[Activating the teaching of chemistry in schools] Aktivizatsiia prepodavaniia khimii v shkole; iz opyta raboty uchitelei. Moskva, Uchpedgiz, 1963. 101 p. (MIRA 16:9)
(Chemistry--Study and teaching)

KLYUCHNIKOV, Nikolay Grigor'yevich; BELOTSVETOV, A.V., dots., retsenzent; BAULINA, V.V., red.

[Practical work in chemical technology] Prakticheskie zaniatiia po khimicheskoi tekhnologii. Izd.3., perer. Moskva, Prosveshchenie, 1965. 262 p. (MIRA 18:6)

ODNORALOV, Nikolay Vasil'yevich; BAULINA, V.V., red.

[Electroforming made interesting; manual for students] Zanimatel'naia gal'vanotekhnika; posobie dlia uchashchikhsia. Izd.2., Moskva, Prosveshchenie, 1965. 91 p. (MIRA 18:4)

BAULINA, Ye. O.

Studying dust in dwellings and public buildings. Gig. i san. 23 no.12: 77 D '58. (MIRA 12:1)
(DUST)

BAULINA, Ye.G.

Investigation of the nozzles of street vacuum cleaners. Sbor.-nauch.rab. AKKH no.3:134-154 '60. (MIRA 15:4)
(Street-cleaning machinery) (Vacuum cleaners)

BAULINA, YE. V.

USSR.

Perfection of the manufacturing of melted butter, A. I. Zheltukov and E. V. Baulina. *Trudy Vsesoyus. Nauch. Issledovatel. Inst. Molochnoi Prom.* 1953, No. 18, 75-81; *Referat. Zhur., Khim.* 1954, No. 37128.—It has been shown that the compds. responsible for the specific flavor of melted butter are water sol. They are formed from the plasma constituents. In order to get the specific flavor of the product a time interval is required for the reaction of the butterfat with the plasma constituents at elevated temps. High temps. affect the quality of the butterfat (if without plasma) by decreasing its stability against oxidation. Keeping the butterfat with the plasma increases the stability of the fat against oxidation. It has been found that in the presence of 3% plasma the temp. of 85-90° can be used; below this plasma amt. the temp. has to be lower. Based on these results a more perfect technological scheme of the manuf. of melted butter is proposed. E. Wierbicki

KHAN, G.A.; GURAN, M.; BAULOV, V.I.; SMIRNOV, V.V.

Testing automatic photometric equipment for the continuous measurement of residual xanthate ion concentrations in flotation pulp. TSvet.met. 35 no.8:79-81 Ag '62. (MIRA 15:8)
(Flotation—Equipment and supplies)
(Photometers—Testing)

USSR / Human and Animal Morphology (Normal and Pathological). Methods and the Technique of Investigation. S-1

Abs Jour: Ref Zhur-Biol., No 10, 1958, 45461

Author : Baulyak-Sevitskaya, M. M.
Inst : AS UkrSSR
Title : Investigative Methods of Interrelations Between the Brain and the Skull and Their Comparative Evaluation.

Orig Pub: Dopovidi AN URSR, 1956, No 2, 192-194

Abstract: Three methods are proposed: (1) For the volumetric measurements of parts of the skull and the brain, an apparatus, consisting of three measuring rulers, is recommended. The skull is sawed along the sagittal plane and is fixed in the apparatus with the plane of the saw cut in an upward direction.

Card 1/3

USSR / Human and Animal Morphology (Normal and Pathological). Methods and the Technique of Investigation. S-1

Abs Jour: Ref Zhur-Biol., No 10, 1958, 45461

Abstract: The fixed line runs from the nose parallel with the oto-ophthalmic horizontal. The measured parts are determined by the points and lines of the skull. The brain is cut into parts by knives inserted into the apparatus. (2) To determine the projection of the grooves on the exterior surface of the skull, it is recommended to use a method of impressions of the grooves and the brain convolutions. For this purpose, latex is deposited on the wet surface of two adjacent convolutions. The hemisphere of the brain is then inserted into the skull cavity with the unremoved and desiccated brain membrane. Latex is then separated from the wet surface of the brain and is fixed to the hard

Card 2/3

BAUM, A., kand.tekhn.nauk

Mechanizing the reception and handling of grain. NTO 2 no.3: 8-9 Mr '60. (MIRA 13:6)

1. Zamestitel' predsedatelya sektsii mekhanizatsii i avtomatizatsii TSentral'nogo pravleniya Nauchno-tekhnicheskogo obshchestva mukomol'no-krupyanoy promyshlennosti i elevatorno-skladskogo khozyaystva.
(Grain elevators)

BAUM, A., kand.tekhn.nauk

Eliminating axial stresses in roller mills. Muk.-elev.prom. 26 no.1:27-28 Ja '60. (MIRA 13:6)
(Grain-milling machinery)

BAUM, A., kand.tekhn.nauk

Lowering the electric power consumption of roller mills.
Muk.-elev.prom. 26 no.2:11-13 F '60. (MIRA 13:6)
(Flour mills)

BAUM, A.; URAZOVA, Z.; NEZLOBIN, M.; AVDUS', P.

On the road of technological progress; materials of a review of the introduction and contests in the development of technical innovations. Muk.-elev. prom. 29 no.4:13-17 Ap '63. (MIRA 16:7)

1. TSentral'nyy institut nauchno-tekhnicheskoy invormatsii Gosudarstvennogo komiteta zagotovok (for Baum). 2. Nauchno-tekhnicheskoye obshchestvo mukomol'noy i krupyanoy promyshlennosti i elevatornogo khozyaystva (for Urazova). 3. Nachal'nik otdela tekhnicheskogo razvitiya mukomol'no-krupyanoy i kombikormovoy promyshlennosti Proizvodstvenno-tekhnicheskogo upravleniya Gosudarstvennogo komiteta zagotovok (for Nezlobin). 4. Direktor TSentral'noy laboratorii Gosudarstvennoy khlebnoy inspektsii (for Avdus').

(Grain-handling machinery)

L 29529-65

technology) -- 235-242

TOPIC TAGS: logical circuit, tunnel diode, tunnel diode circuit

ABSTRACT: A method is suggested for calculating the static conditions ... mutually ... given ... its maximum ... diodes and (b) GaAs tunnel diodes coupled by pulse

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L 29529-65

ACCESSION NR: AT5000977

diodes. Problem statement: the AND-gate has 2 inputs and 1 output for triggering an OR-gate which has n inputs and operates 1 AND- and n OR-gates. [illegible] analyzing its state conditions. The AND-gate [illegible] for determining circuit parameters. [illegible]

L 29529-65

ACCESSION NR: AT5000777

threshold elements. Conclusions: some details of the above investigation are reported. Orig. art. has: 33 figures and 87 formulas.

ASSOCIATION: Institut elektroniki i vychislitel'noy tekhniki AN LatSSR (Institute of Electronics and Computer Technology, AN LatSSR)

Card 3/3

BAUM, A., brigadir slesarey

A saving of metal. Na stroi. Ros. no.7:20 Jl '61. (MIRA 14:8)

1. Tresta Neftezavodmontazh Permskogo sovnarkhoza.
(Perm--Metal cutting)

BAUM, A.Ye.

Single conduit system for active ventilation. Spirt.prom.20 no.1:32-35 '54. (MLRA 7:5)
(Grain--Storage)

BAUM, A., kandidat tekhnicheskikh nauk.

Grading waste products simultaneously with grain cleaning. Muk.-elev.prom. 20 no.1:6-8 Ja '54. (MLRA 7:7)

1. Kanskaya opytnaya laboratoriya VNIIZ.
(Grain--Cleaning)

RAUM, A., kandidat tekhnicheskikh nauk; GOLIK, M., kandidat sel'skokhozyaystvennykh nauk.

Transference of moisture in stored grain. Muk.-elev.prom. 20 no.3:3-6 Mr '54. (MLRA 7:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov ego pererabotki.
(Grain--Storage)

RAUM, A., kandidat tekhnicheskikh nauk.

Drying wheat with intermediate cooling. Muk.-elev.prom. 20 no.10: 7-8 O '54. (MLRA 7:12)

1. Kanskaya opytnaya laboratoriya VNIIZ
(Wheat--Drying)

BAUM, A.A., kandidat tekhnicheskikh nauk.

Investigation of methods of storing flour in warehouses with asphalt floors. Muk.-elev.prom. 20 no.11:4-6 N'54. (MLRA 8:3)

1. Kanskaya opytnaya laboratoriya VNIIZ.
(Flour—Storage)

KUPRIYANOV, A., inzhener; BAUM, A., kandidat tekhnicheskikh nauk.

Receiving and final drying of grain at storage points in Krasnoyarsk Territory. Muk.-elev.prom. 21 no.1:4-6 Ja '55.

1. Ministerstvo zagotovok SSSR (for Kupriyanov). 2.Vyashya zagotovitel'naya shkola (for Baum).
(Krasnoyarsk Territory--Grain--Drying)

BAUM, A., kandidat tekhnicheskikh nauk.

For more extensive scientific work in the Higher School of Procurement. Muk.-elev.prom. 22 no.1:5-6 Ja '56. (MLRA 9:5)

1. Vysshaya zagotovitel'naya shkola.
(Grain trade--Study and teaching)

RAUM, A. kandidat tekhnicheskikh nauk.

Drying wheat with heated air in storage sheds. Muk.-elev. prom. 22 no.8:9-12 Ag '56. (MLRA 10:8)
(Wheat--Drying)

RAUM, A., kand.tekhn.nauk; ZAKHAROV, M.

Problems of organizing grain cleaning. Muk-elev.prom. 25 no.1:26-28 Ja '59. (MIRA 12:3)

1. Kuybyshevskaya normativno-issledovatel'skaya stantsiya (for Zakharov).
(Grain--Cleaning)

L 8511-66

ACC NR: AT5027525 SOURCE CODE: UR/2690/65/008/000/0143/0165

40
B+ 1

AUTHOR: Baum, A.K.; Kilyup, A.P.

ORG: Institute of Electronics and Computer Technology AN LatSSR, Riga (Institut elektroniki i vychislitel'noy tekhniki AN LatSSR)

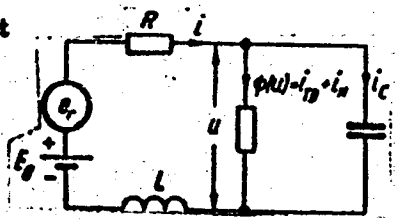
TITLE: Transient processes in pulsed tunnel-diode circuits

SOURCE: AN LatSSR. Institut elektroniki i vychislitel'noy tekhniki. Trudy, v. 8, 1965. Avtomatika i vychislitel'naya tekhnika, 143-165

TOPIC TAGS: tunnel diode, semiconductor device, semiconductor theory, circuit design

ABSTRACT: Transient processes in tunnel-diode devices limit the maximum speed of pulsed circuits. The duration and form of such transients depend strongly on the particular circuit design. However, analysis shows that the majority of circuits may be reduced to the equivalent circuit shown in Fig. 1. The article discusses certain methods for approximating

Fig. 1 Equivalent circuit for the analysis and calculation of transient processes.



Card 1/2

UDC: 621.382.233:681.142.67

L 8511-66
ACC NR: AT5027525

the tunnel diode characteristics, the effect of such factors as the rise time, inductances, variable capacitances on the tunnel diode transients. An example is given of the calculations in the design of a threshold logic computer circuit. Results of the theoretical discussion show that 1) the tunnel diode characteristic can be approximated by piecewise-linear curves; 2) the finite rise time of pulses should be taken into account in the calculations; 3) variable diode capacitances can be substituted by appropriately averaged capacitances; and 4) the inductivity of tunnel-diode circuits may be neglected if $L/R \ll 2C\varsigma$ (ς is the modulus of the mean negative resistance). Orig. art. has: 29 formulas and 19 figures.

SUB CODE: EC / SUBM DATE: none / ORIG REF: 004 / OTH REF: 009

Card 2/2

BAUM, Aldis Karlovich; BILINSKIY, Ivar Yanovich; TREYS, Petr Petrovich; VERSHIN, V.Ye., red.

[Tunnel diodes in circuits industrial electronics] Tunnel'nye diody v skhemakh promyshlennoi elektroniki. Moskva, Energiia, 1965. 103 p. (Biblioteka po avtomatike, no.144) (MIRA 18:11)

YEFREMOV, Ivan Ivanovich; BIL'DE, Anatoliy Eduardovich; BAUM, A.Ye., kand.tekhn.nauk, red.; SINTSEROV, A.D., inzh., red.; D'YACHENKO, V.M., red.; SAVEL'YEVA, Z.A., tekhred.

[Milling machinery industry and flour-milling enterprises of the Hungarian People's Republic] Mel'nichnoe mashinostroenie i predpriiatiia mukomol'noi promyshlennosti Vengerskoi Narodnoi Respubliki. Pod red. A.E.Bauma, i A.D.Sintserova. Moskva, Izd-vo tekhn. i ekon.lit-ry, 1960. 59 p. (MIRA 13:8)
(Hungary--Grain-milling machinery)
(Hungary--Flour mills)

BAUM, A.Ye.

Equipment for the complete mechanization of loading and unloading. Spirt.prom. 26 no.5:39-44 '60.
(MIRA 13:7)

(Loading and unloading)

BAUM, Aleksandr Yefimovich, kand. tekhn. nauk; VOLKOV, P.N., red.; SAVEL'YEVA, Z.A., tekhn. red.

[Grain drying] Sushka zerna. Moskva, Izd-vo tekhn. i ekon. lit-ry po voprosam zagotovok, 1961. 71 p. (MIRA 14:8)
(Grain—Drying)

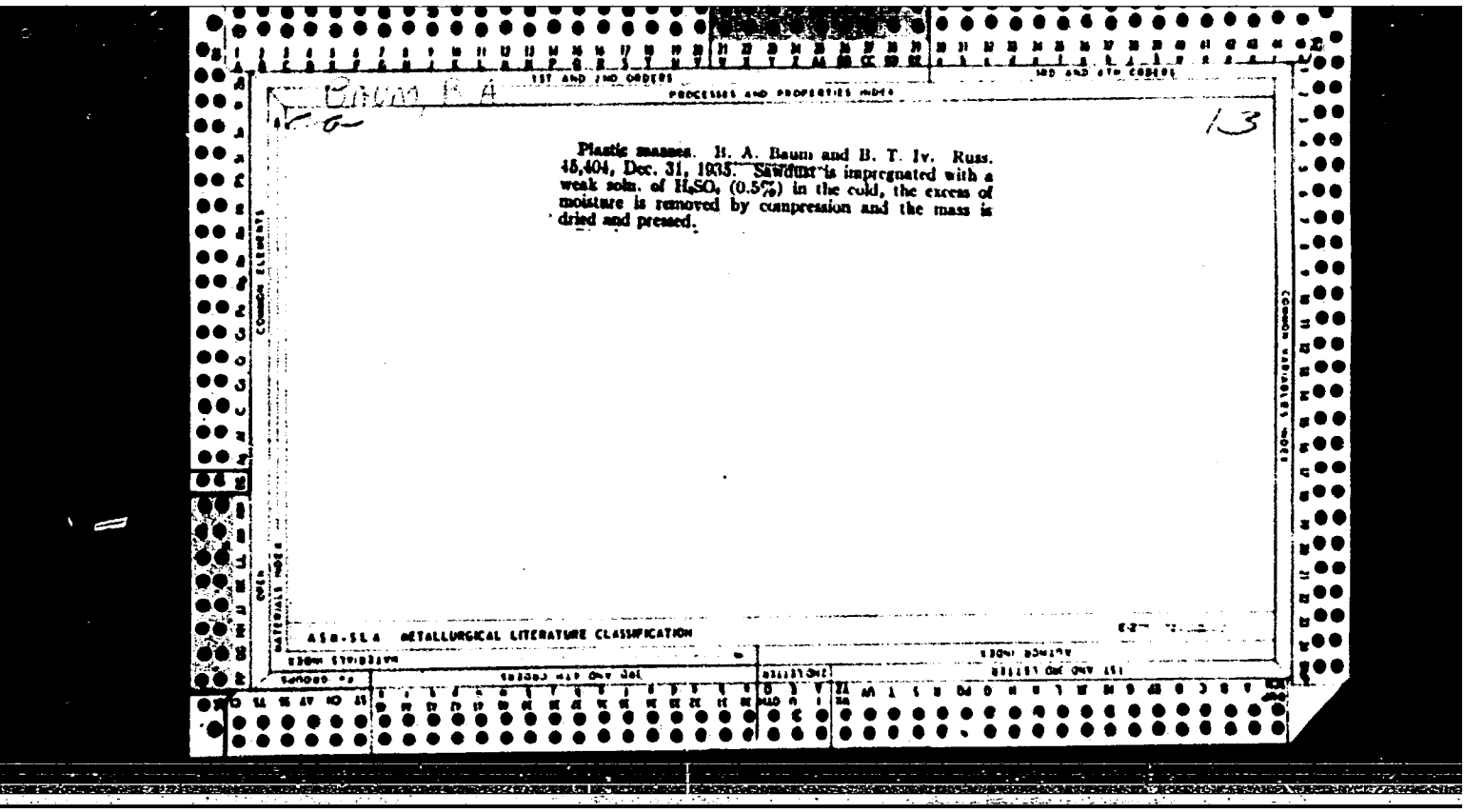
BAUM, Aleksandr Yefimovich, kand. tekhn. nauk; GERZHOY, A.P., laureat Gosudarstvennoy premii, kand. tekhn. nauk, spets. red.; PTITSYN, S.D., kand. tekhn. nauk, retsenzent; ARKHANGORODSKIY, L.A., inzh., red.; VOLKOV, P.N., red.

[Grain drying] Sushka zerna. Izd.3., perer. i dop. Moskva, TsINTI, 1963. 267 p. (MIRA 17:11)

BAUM, B.; GLOZMAN, Ye.; MAKARYAN, A.

One-speed drive for boring machines. Prom.Arm. 6 no.2:38-40 F '63. (MIRA 16:5)

1. Lusavanskiy zavod rastochnykh stankov.
(Drilling and boring machinery--Electric driving)



Plastic masses. B. A. Baum and B. T. Iv. Russ. 48,404, Dec. 31, 1935. Sawdust is impregnated with a weak soln. of H_2SO_4 (0.5%) in the cold, the excess of moisture is removed by compression and the mass is dried and pressed.

BAUM, B.A., KUROCHKIN, K.T., KONOVALOV, A.C., POSTYK, V.V., TIMCHENKO, N.F.

"Distribution of Hydrogen and Nitrogen in Steel Castings,"
lecture given at the Fourth Conference on Steelmaking, A.a. Baikov Institute of Metallurgy, Moscow, July 1-6, 1957

SOV/137-58-10-20558

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 30 (USSR)

AUTHORS: Kurochkin, K.T., Butakov, D.K., Umrikhin, P.V., Baum, B.A.

TITLE: Change in Hydrogen and Nitrogen Contents in the Smelting of High-alloy Chromium-nickel-molybdenum Steel by the Basic Open-hearth Process (Izmeneniye soderzhaniya vodoroda i azota pri vyplavke vysokolegirovannoy khromonikelemolibdenovoy stali osnovnym martenovskim protsessom)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Chernaya metallurgiya, 1958, Nr 1, pp 34-40

ABSTRACT: Experimental heats (He) are run in 30, 45, and 65-t open-hearth furnaces. [H] is determined from pre-hardened samples by the method of the Department of Steel Metallurgy of the Urals Polytechnic Institute, while [N] was determined by the method of dissolution. As a rule, [H] rises during the He and, for example, is 3.96 $cm^3/100$ g fusion, on the average, for a 30-t furnace, while it is 4.05 at the onset of pure boil and 7.20 $cm^3/100$ g prior to deoxidation. As the metal temperature rises, [H] in the He and the ladle also increases. The minimum [H] is observed at a slag basicity (CaO %/SiO_2 %) of

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Change in Hydrogen and Nitrogen Contents (cont.)

3.1-3.5. As [C] rises, [H] diminishes. The [N] diminishes in the course of the He, increases after deoxidation and during pouring, and in a 30-t furnace comes to 0.00327% upon fusion, 0.00258% at the start of pure boil, and 0.00224 and 0.00264% prior to and after deoxidation, respectively.

A.S.

1. Steel--Production 2. Steel--Properties 3. Hydrogen--Effectiveness
4. Nitrogen--Effectiveness

Card 2/2

SOV/137-58-8-17855

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 236 (USSR)

AUTHORS: Kurochkin, K. T., Umrikhin, P. V., Baum, B. A.

TITLE: The Effect of Hydrogen and Nitrogen on the Electromagnetic Properties of Transformer Steel (Vliyaniye vodoroda i azota na elektrotekhnicheskiye svoystva transformatornoy stali)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Chernaya metallurgiya, 1958, Nr 2, pp 143-150

ABSTRACT: The effect of H on the magnetic properties of transformer steel (TS) was investigated. It is established that H increases the electrical losses and the magnitude of H_C and reduces the magnetic permeability of the TS. The greatest reduction of the magnetic permeability was observed in weak magnetic fields. The harmful effects of N on the magnetic properties of the TS are not as strongly pronounced as those of the H. At a saturation temperature of 850° and 950°C, the electrical losses and the H_C reach a maximum when the pressure of N amounts to 200 mm Hg. Since the actual pressure of N during smelting is considerably greater than 200 mm Hg, the influence of N present in TS cannot be eliminated under standard industrial conditions.

I. B.

Card 1/1

1. Steel--Magnetic properties 2. Hydrogen--Magnetic effects 3. Nitrogen--Magnetic effects

1-(3)

SOV/148-59-2-6/24

AUTHORS: Kurochkin, K.T., Docent, Candidate of Technical Sciences, Baum, B.A., Konovalov, A.S., Postyka, V.V., and Timchenko, N.F., Engineers

TITLE: Hydrogen and Nitrogen Distribution in Steel Ingots (Raspredeleniye vodoroda i azota v stal'nykh otlivkakh)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, 1959, Nr 2, pp 43-49 (USSR)

ABSTRACT: The existing date on gas behavior in steel during crystallization and cooling presented by Khan, Povolotskiy, Polin, Krechchanovskiy, Dubovoy, Sklyuyev, Kvater, Sharip and Yavoyskiy [Ref 1-6] and [Ref 8] are insufficient. Information is presented on results of experiments carried out on medium-carbon chromo-nickel-molybdenum steel ingots, for the purpose of determining gas distribution after cooling and changes in the gas content during heat treatment. The hydrogen content was determined by vacuum-heating and nitrogen content by means of dissolving. It was stated that hydrogen was separated from the solid metal during crystallization and concentrated in the liquid solution. Hydrogen concentration

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in the internal zones of the steel ingots during the transition from the liquid to the solid stage caused bubble formation, friability, porosity and heterogeneous hydrogen distribution. Hydrogen passage from peripherial zones toward the center continued during phase changes in the steel. After cooling the ingots were oversaturated with hydrogen which left the metal by diffusion toward the surface and by desorption into the atmosphere. The diffusion rate increased with higher temperatures. With regard to nitrogen distribution it was only stated that it was non-uniform.

There are 2 diagrams, 3 tables, 2 graphs and 6 references, 7 of which are Soviet and 1 English.

Hydrogen and Nitrogen Distribution in Steel Ingots SOV/148-59-2-6/24

ASSOCIATIONS: Ural'skiy politekhnicheskiy institut (Ural Polytechnical Institute), Kafedra metallurgii stali (Chair of Steel Metallurgy)
Omskiy mashinostroitel'nyy zavod (Omsk Machine-building Plant)

SUBMITTED: May 26, 1958

Card 3/3

KUROCHKIN, K.T., kand.tekhn.nauk, dots.; UMRIKHIN, P.V., doktor tekhn. nauk, prof.; BOGATENKOV, V.F., inzh.; BUTAKOV, D.K., kand. tekhn.nauk, dots.; BAUM, B.A., inzh.

Answer to N.S.Mikhailets. Izv.vys.ucheb.zav.; chern.met. 2 no.7:147-151 Jl '59. (MIRA 13:2)

1. Ural'skiy politekhnicheskiy institut.
(Metals--Hydrogen content)

KUROCHKIN, K.T., kand.tekhn.nauk; BAUM, B.A., inzh.; KONOVALOV, A.S., inzh.; POSTYKA, V.V., inzh.

Gas moisture in open-hearth furnace combustion chambers and hydrogen content in the metal. Metallurg 4 no.3:16-19 Mr '59. (MIRA 12:4)

1. Ural'skiy politekhnicheskiy institut im. S.M. Kirova i Omskiy zavod transportnogo mashinostroyeniya.
(Open-hearth furnaces)
(Steel-hydrogen contetn)

KUROCHKIN, K.T.; BAUM, B.A.; KOSTYUCHENKO, R.P.

Correlation between the actual and equilibrium concentrations of hydrogen in steel during the open-hearth process. Izv. vys. ucheb. zav.; chern. met. no.2:25-31 '60. (MIRA 15:5)

1. Ural'skiy politekhnicheskiy institut.
(Steel--Hydrogen content)
(Vapor-liquid equilibrium)

BAUM, B.A.

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PHASE I BOOK EXPLOITATION SOV/5556

Moscow. Institut stali.

Novoye v teorii i praktike proizvodstva martenovskoy stali (New [Developments] in the Theory and Practice of Open-Hearth Steelmaking) Moscow, Metallurgizdat, 1961. 439 p. (Series: Trudy Mezhvuzovskogo nauchnogo soveshchaniya) 2,150 copies printed.

Sponsoring Agency: Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya RSFSR. Moskovskiy institut stali imeni I. V. Stalina.

Eds.: M. A. Glinkov, Professor, Doctor of Technical Sciences, V. V. Kondakov, Professor, Doctor of Technical Sciences, V. A. Kudrin, Docent, Candidate of Technical Sciences, G. N. Oyks, Professor, Doctor of Technical Sciences, and V. I. Yavoyskiy, Professor, Doctor of Technical Sciences; Ed.: Ye. A. Borko; Ed. of Publishing House: N. D. Gromov; Tech. Ed.: A. I. Karasev.

PURPOSE: This collection of articles is intended for members of scientific institutions, faculty members of schools of higher education, engineers concerned with metallurgical processes and physical chemistry, and students specializing in these fields.

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New [Developments] in the Theory (Cont.) SOV/5556

COVERAGE: The collection contains papers reviewing the development of open-hearth steelmaking theory and practice. The papers, written by staff members of schools of higher education, scientific research institutes, and main laboratories of metallurgical plants, were presented and discussed at the Scientific Conference of Schools of Higher Education. The following topics are considered: the kinetics and mechanism of carbon oxidation; the process of slag formation in open-hearth furnaces using in the charge either ore-lime briquets or composite flux (the product of calcining the mixture of lime with bauxite); the behavior of hydrogen in the open-hearth bath; metal desulfurization processes; the control of the open-hearth thermal melting regime and its automation; heat-engineering problems in large-capacity furnaces; aerodynamic properties of fuel gases and their flow in the furnace combustion chamber; and the improvement of high-alloy steel quality through the utilization of vacuum and natural gases. The following persons took part in the discussion of the papers at the Conference: S.I. Filippov, V.A. Kudrin, M.A. Glinkov, R.P. Nam, V.I. Yavoyskiy, G.N. Oyks and Ye. V. Chelishchev (Moscow Steel Institute); Ye. A. Kazachkov and A. S. Kharitonov (Zhdanov Metallurgical Institute); N.S. Mikhaylets (Institute of Chemical Metallurgy of the Siberian Branch of the Academy of Sciences USSR); A.I. Stroganov and D. Ya. Povolotskiy (Chelyabinsk Polytechnic Institute); P.V. Umrikhin (Ural Polytechnic Institute); I.I. Fomin (the Moscow "Serp i molot" Metallurgical Plant); V.A. Fuklev (Central Asian Polytechnic Institute)

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New [Developments] in the Theory (Cont.) SOV/5556

and M.I. Beylinov (Night School of the Dneprodzerzhinsk Metallurgical Institute). References follow some of the articles. There are 268 references, mostly Soviet.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress (TN740.M58)

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VK/wrs/mas
10-4-61

S/148/61/000/002/001/011
A161/A133

AUTHORS: Baum, B. A., Kurochkin, K. T., Umrikhin, P. V.

TITLE: The process of hydrogen liberation from liquid steel in gas blowing

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no. 2, 1961, 22 - 31

TEXT: The results of an experimental investigation are discussed with references to data of nineteen works partly confirming the authors' conclusions and partly illustrating that the existing opinions on the process are different. Three alloys were melted in the subject experiments: a) Fe - C (0.8 - 1.0% C, 0.10 Mn, 0.01 Si, 0.015 P, 0.004 S, 0.1 - 0.3 Al); b) Fe - S (0.02 C, 0.10 Mn, 0.01 Si, 0.015 P, 0.07 - 0.09 S, 0.1 - 0.3 Al); c) Fe - C - S (0.8 - 1.0 C, 0.10 Mn, 0.01 Si, 0.015 P, 0.07 - 0.09 S, 0.1 - 0.3 Al). The test conditions were the following: 30 - 35 kg of the metal was melted in a laboratory induction furnace; blowing and mixing was effected at a reduced current of 10 - 15 kw; the bath depth was 160 - 180 mm; deoxidization was carried out with aluminum, the gas was blown through one iron pipe with magnesite cylindrical nozzle with closed bottom and four side holes 4 or 6 mm in diameter; the metal was saturated with hydrogen after melting by

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The process of hydrogen liberation from liquid steel ...

means of bubbling with mixed 10% propane and 90% butane; blowing pure argon and helium (with not more than 0.13% N_2 and 0.006% O_2), nitrogen (N99.0%) and chlorine, at 0.04 - 0.1 atm pressure; the effect of mixing was also studied. The mixing of metal by blowing and stirring did not exceed the usual rimming in shop furnaces. The experimental results are illustrated in graphs and a table. Gas neutral to hydrogen had no effect on its elimination; nitrogen caused an abrupt increase of the hydrogen concentration in the metal; chlorine raised the dehydrogenation rate not only by the $[H]_{surface} + [H]_{surface} \rightarrow [H_2]^{surf}$ reaction, but by the formation of HCl as well that was stable under the test conditions. The obtained data as well as observations in other works made previously indicated pulsations and an unsteady motion of the raising gas bubbles in the metal. It is apparent that no resistant laminal films exist on the boundary between the metal and gas bubbles, the liquid metal layer on the boundary with the gas bubble is being permanently renewed, and the rate of element transfer from the volume to the free surface depends on the rate of turbulent diffusion. Hence if an element liberates from the surface layer into the gaseous phase through a chemical reaction at a limited rate, it is very probable that just this reaction will be limiting the process rate. It may therefore be concluded that the hydrogen liberation process from liquid steel during

The process of hydrogen liberation from liquid steel ...

rimming in furnaces and during blowing in ladles is kinetic. The stage limiting the process is the stage of hydrogen recombination in the surface layer with simultaneous desorption of the molecule into gaseous phase. Conclusions: 1) The rate of hydrogen elimination in blowing through the induction furnace crucible is limited by the rate of recombination (with simultaneous molecule desorption) on the metal-gas boundary. 2) The factors having the strongest effect on the rate of the process are - the blown gas consumption, the depth to which the blowing pipe is submerged in metal, the metal temperature, and the pipe nozzle holes diameter. Neither the chemical composition of the metal nor the nature of gas being blown (if it does not react with hydrogen) do have any noticeable effect on the rate of hydrogen elimination. 3) The laboratory test results and a comparison of mixing effect lead to the conclusion that the hydrogen elimination process is also kinetic at the rimming of metal in industrial furnaces and during the blowing in ladles. There are 4 figures, 1 table and 19 references: 14 Soviet-bloc and 5 non-Soviet-bloc. The two references to English-language publications read as follows: C. E. Sims. Electric Furnace Steel Conference Proceedings, v. 7, 1949, 302 - 313; L. F. Barnhardt. Electr. Furnace Steel Conf. Proceedings, v. 13, 1955, 58 - 69.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Ural Polytechnic Institute)
SUBMITTED: June 8, 1960

Card 3/3

BAUM, B. A., Cand. Tech. Sci. (diss) "Investigation of the Process of Removal of Hydrogen from Molten Steel, " Sverdlovsk, 1961, 19 pp. (Urals Polytech. Instit.) 150 copies (KL Supp 12-61, 263).

S/137/61/000/011/019/123
A060/A101

AUTHORS: Kurochkin, K. T., Baum, B. A.

TITLE: Ratio of the actual to the equilibrium concentration of hydrogen in metal from an open-hearth heat

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 11, 1961, 29, abstract 11V188 (V sb.: "Novoye v teorii i praktike proiz-va martenovsk. stali", Moscow, Metallurgizdat, 1961, 400 - 409. Discuss., 428 - 439)

TEXT: The values of the mass-transfer coefficients through slag in basic and acid processes are approximately estimated. For the basic process at pure ebullition D = 1.75 cm^2/min. The hydrogen permeability of the slag for this period is 5.22 $cm^2/min\text{-}cm^3/100\ g\ mm^{1/2}$ of mercury. After reduction of the vat D = 0.65 cm^2/min. The hydrogen permeability is 2.24 $cm^2/min\text{-}cm^3/100\ g\ mm^{1/2}$ mercury. For the acid silicon reduction process D = 1.13 cm^2/min. The hydrogen permeability is 2.81 $cm^2/min\text{-}cm^3/100\ g\ mm^{1/2}$ of mercury. The mass transfer coefficient of H_2 for the silicon reduction process is lower by a factor of 1.5, and the hydrogen permeability of the alkalinic slag is greater by a factor of 2 than that

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Ratio of the actual to the equilibrium...

of the acid process. Despite the elimination of H_2 by means of CO bubbles, the process of H_2 absorption by the metal dominates the process of liberation. The higher the V_C, the more H_2 is eliminated and the greater is its quantity absorbed by the vat. An increase in H_2 concentration in the metal during the smelting process indicates the fact that its content tends to some definite quantity, which may be thought of as the equilibrium concentration of H_2. The measurements of H_2 solubility were carried out on a Sieverts-type laboratory apparatus. The equilibrium concentration of H_2 for the conditions of open-hearth steel was calculated from the solubility measured. The interaction reaction of water vapor with molten $Fe \cdot H_{2gas} + FeO_{molten\ in\ Fe} = Fe_{molten} + H_2O_{gas}$, lies at the basis of the calculation of the equilibrium concentration. At temperatures of a steel-smelting vat and at O_2 content equal to 0.02%, the value of the ratio P_{H_2O}/P_{H_2} fluctuates between the limits 0.10 - 0.14, i. e. 90 - 95% of the water vapor is being decomposed. Consequently, into the equation $|H| = k_H \sqrt{P_{H_2}}$, instead of the partial pressure of pure H_2 it is possible to substitute the sum of the partial pressures of water vapor and of H_2 in the gaseous phase in the open-hearth furnace. Ac-

cording to this equation one calculates the equilibrium concentrations of H_2 in the metal, which are considerably higher than the actual H_2 concentrations; the latter tend toward the equilibrium values. See also Ref. zhur. Met, 1960, 17057.

Yu. Nechkin

[Abstracter's note: Complete translation]

BAUM, B.A.; KUROCHKIN, K.T.; UMRIKHIN, P.V.

Process of hydrogen removal from liquid steel during the gas blow. Izv. vys. ucheb. zav.; chern. met. no.2;22-31 '61. (MIRA 14:11)

1. Ural'skiy politekhnicheskiy institut.
(Steel--Hydrogen content) (Diffusion)

BAUM, B.A. (Sverdlovsk); KUROCHKIN, K.T. (Sverdlovsk); UMRIKHIN, P.V. (Sverdlovsk)

Effect of hydrogen on the surface tension of iron and its alloys. Izv. AN. SSSR. Otd. tekh. nauk. Met. i topl. no.3:82-89 My-Je '61. (MIRA 14:7)

(Iron—Hydrogen content) (Surface tension)

BAUM, B.A.; KUROCHKIN, K.T.; UMRIKHIN, P.V.

Surface activity of hydrogen in liquid iron. Fiz. met. i metalloved. 11 no.6:960-961 Je '61. (MIRA 14:6)

1. Ural'skiy politekhnicheskiy institut imeni S. M. Kirova.
(Surface tension)
(Iron—Hydrogen content)

KUROCHKIN, K.T.; BAUM, B.A.

Hydrogen in the metal of basic open-hearth smelting. Trudy Ural. politekh. inst. no.116:56-64 '61. (MIRA 16:6)
(Steel—Hydrogen content)

KUROCHKIN, K.T.; BAUM, B.A.; FEDOTOV, G.K.; LIRMAN, A.M.; ROSHCHEKTAYEV, V.I.

Hydrogen in acid steel made from a liquid semifinished product.
Trudy Ural. politekh. inst. no.116:65-75 '61. (MIRA 16:6)
(Steel—Metallurgy) (Steel—Hydrogen content)

BAPTIZMANSKIY, V.I.; BAUM, B.A.; YERSHOV, G.S.

Effect of the composition of a fluidized bed on the content of hydrogen in steel. Stal' 22 no.12:1084-1086 D '62.
(MIRA 15:12)

1. Dnepropetrovskiy metallurgicheskiy institut (for Baptizmanskiy).
2. Ural'skiy politekhnicheskiy institut (for Baum, Yershov).
(Fluidization) (Steel—Hydrogen content)

KUROCHKIN, K.T.; BAUM, B.A.; BORODULIN, Ye.K.

Effect of nitrogen on the surface tension of liquid iron. Fiz. met.i metalloved. 15 no.3:461-462 Mr '63. (MIRA 16:4)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(Liquid metals) (Surface tension)

ACCESSION NR: AP4029838 S/0279/64/000/002/0149/0155

AUTHOR: Baum, B. A. (Sverdlovsk); Gel'd, P. V. (Sverdlovsk); Suchil'nikov, S. I. (Sverdlovsk)

TITLE: The electrical conductivity of chromium, silicon, and chromium,disilicide in the solid and liquid states

SOURCE: AN SSSR. Izv. Metallurgiya i gornoye delo, no. 2, 1964, 149-155

TOPIC TAGS: silicide, chromium, silicon, valent state, KM-1 silicon

ABSTRACT: The authors investigated the electroconductivity of phase components of the chromium-silicon system in which the properties, especially in a liquid state, have not been adequately studied. Measurements were made within ranges of 5-1925°C for chromium, 700-1830°C for silicon, and 15-1881°C for $CrSi_2$. Measurement results are presented in graphs. The authors found that a specific resistance of electrolytic chromium at 20°C was 14.1 μΩ/cm and rapidly increased with temperature, reaching 145.5 μΩ at 1800°C. This differed somewhat from previous results. The temperature dependence of the electroconductivity of pure silicon agreed quite well with previous data. Chromium disilicide has an electroconductivity in a solid state which changes with the temperature according to the extreme law, reaching a minimum

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ACCESSION NR: AP4029838

near 385°C. In addition, the stable parameters of the proper conductivity of disilicide (ΔE=0.92 eV) is obtained at temperatures somewhat exceeding 385°C (for which ΔE=0). The discontinuous increase of electroconductivity observed at the melting point of $CrSi_2$ showed that its transition in the liquid state was accompanied by substantial change in the nature of interparticle interaction. Obviously transformation of the homeopolar bonds into metallic bonds occurred; i.e., processes similar to those observed in the melting of a number of semiconductors (Ge, Si, Si-Ge) and semimetals (Bi, Sb, Bi-Sb). The limited interval of the temperatures studied did not permit the completion of this process to be detected. However, in all the temperatures studied, the electroconductivity of chromium disilicide was considerably less (appx. 3 times) than σ of the fused components and could be examined as an indication of its retention of adequately-stable quasi-molecular groups (Cr-Si or Si-Cr-Si). From this viewpoint, liquid chromium silicides are in many ways reminiscent of silicides of other transitional metals (Mn, Fe, Co). Orig. art. has: 3 figures and 4 formulas.

ASSOCIATION: none

SUBMITTED: 12Aug63 DATE ACQ: 30Apr64 ENCL: 00

SUB CODE: ML NO REF SOV: 023 OTHER: 002

Card 2/2

KUROCHKIN, K.T.; SUCHIL'NIKOV, S.I.; BAUM, B.A.

Vacuum treatment of liquid aluminothermic chromium. Izv. vys. ucheb. zav.; chern. met. 6 no.10:58-61 '63. (MIRA 16:12)

1. Ural'skiy politekhnicheskiy institut.

BAUM, B.A.; GEL'D, P.V.; SUCHIL'NIKOV, S.I.

Electric conductivity of liquid chromium silicides. Fiz. met. i metalloved. 16 no.6:939-941 D '63. (MIRA 17:2)

1. Ural'skiy politekhnicheskiy institut imeni Kirova.

BAUM, B.A. (Sverdlovsk); GEL'D, V.V. (Sverdlovsk); SUCHKOV, S.I. (Sverdlovsk)

Electric conductivity of chromium, silicon and chromium disilicide in solid and liquid states. Izv. AN SSSR Met. i gor. delo no.2:149-155 Mr-Ap'64 (MIRA 17:8)

L 60980-65 EPF(c)/EWT(d)/EWP(m)/EWP(k)/EWP(h)/EWP(b)/EWA(d)/EWP(v)/EWP(t) Pf-4/ Pr-4 IJP(c) JD/JG

ACCESSION NR: AP5018175 UR/0148/65/000/007/0043/0045 44
669.15-194:669.27:669.783:541.8 41

AUTHOR: Kurochkin, K. T.; Baum, B. A.; Kostyuchenko, R. P. B

TITLE: Solubility of hydrogen in iron-tungsten alloys

SOURCE: IVUZ. Chernaya metallurgiya, no. 7, 1965, 43-45

TOPIC TAGS: hydrogen solubility, tungsten alloy, iron alloy, tungsten steel

ABSTRACT: The possible influence of tungsten in steel alloys on the solubility of gases is not yet known. Consequently, the author studied the influence of W on the solubility of hydrogen in iron. The iron tested contained 0.028%C, 0.18% Si, 0.006% Mn, 0.026% S, 0.19% Cu, 0.05% Cr, and 0.18% Ni. The basic result of the experiment is shown in Fig. 1 of the Enclosure. The article also describes briefly the device for the determination of hydrogen solubility and presents results concerning the influence of temperature (between 1550 and 1650C) on the hydrogen solubility in iron-tungsten alloys. For the alloy with 1.14% W, this effect can be expressed by the formula:

$$\log S = -\frac{3570}{T} + 3.32$$

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L 60980-65

ACCESSION NR: AP5018175

Orig. art. has: 2 formulas and 3 figures.

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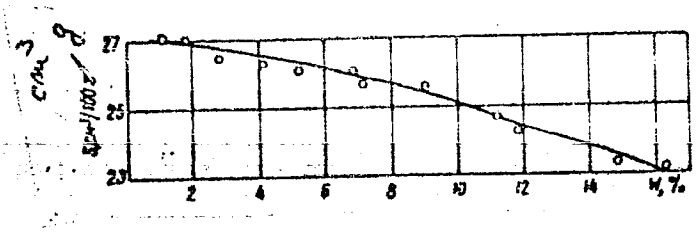

Fig. 1. Hydrogen solubility in iron-tungsten alloys as a function of tungsten content at 1550C.

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